

## Background Information

# Arch\_Tec\_Lab – a prototype for the construction of the future

Zurich, 22 September 2016

The Arch\_Tec\_Lab is a physical embodiment of interdisciplinary collaboration and the use of new technologies in the world of construction. It demonstrates how digitalisation can contribute to a resource-efficient, emission-free and compact construction.



Building owner:  
Users:

ETH Zurich  
Institute for Technology in Architecture, ETH Zurich,  
NCCR Digital Fabrication

## Background Information

### Participating professors:

Architecture, building process, co-ordination:	Prof. Sacha Menz, Chair of Architecture and Building Process
Timber roof and Robotic Fabrication Lab:	Prof. Fabio Gramazio and Prof. Matthias Kohler, Chair of Architecture and Digital Fabrication
Support structure:	Prof. Dr. Joseph Schwartz, Chair of Structural Design
Parametric Design:	Prof. Dr. Ludger Hovestadt, Chair of CAAD
Building physics and acoustics:	Prof. Dr. Jan Carmeliet, Chair of Building Physics
“Zero Emissions” concepts:	Prof. Dr. em. Hansjürg Leibundgut, Chair of Building Systems

### Building

Building volume:	36,000 m <sup>3</sup>
Floor area:	6,600 m <sup>2</sup>
No. of storeys:	2 basement floors 4 upper floors
Common areas:	5
Workspaces:	180

### Project description

The largely digital planning and construction process took six years and involved architects, civil engineers, building service engineers and construction physicists from the Institute of Technology in Architecture at ETH Zurich. The central challenge focused on determination of how digital technologies and collaborative planning processes could be used to develop and build a resource-efficient, spatially compact construction that would serve as a paradigm for future work. A new building has arisen on the roof of an existing car park at the Hönggerberg campus that provides structural expression and inspiration to the research credo of the Institute of Technology in Architecture.

### Timeline

Preliminary project:	2010
Building project and planning application	2011
Approval procedure:	2012
Call for tenders and contract awards:	2012 to 2013
Start of construction:	July 2014
Building completion:	July 2016
Move-in date:	September 2016

### Financing:

Design and construction:	CHF 38 million
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### **Participating specialist planners:**

Overall architectural planning,  
co-ordination:

Guido Züger, Institute for Technology in Architecture (ITA),  
Arch\_Tec\_Lab AG since 2014

Timber roof:

Chair of Architecture and Digital Fabrication, Arch\_Tec\_Lab  
AG, Dr. Lüchinger+Meyer AG, SJB Kempter Fitze AG, ROB  
Technologies AG, ERNE AG Holzbau

Robotic Fabrication Laboratory:

Chair of Architecture and Digital Fabrication, Güdel AG, ABB  
Schweiz AG

Support structure:

Dr. Lüchinger+Meyer AG

HVAC planning:

Amstein+Walthert AG

BIM co-ordination:

Arch\_Tec\_Lab AG, Guido Züger and Odilo Schoch

Contractor:

HRS Real Estate AG

[www.ita.arch.ethz.ch/Archteclab.html](http://www.ita.arch.ethz.ch/Archteclab.html) →